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APPLICATION NUMBER: 10/559,647
FILING DATE: 07/31/2006

FIRST NAMED INVENTOR: Rosanne M. Crooke

ART UNIT: 1635

EXAMINER NAME: Amy Hudson Bowman

ATTORNEY DOCKET NUMBER: ISPH-0595USA

TITLE: MODULATION OF APOLIPOPROTEIN

(a) EXPRESSION

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INFORMATION DISCLOSURE STATEMENT Under 37 C.F.R. §§ 1.56 and 1.97-98

SIR:

Pursuant to the provisions of 37 C.F.R. §§ 1.56 and 1.97-98, enclosed herewith is PTO Form PTO/SB/08A and PTO/SB/08B listing references for consideration by the Examiner.

This Information Disclosure Statement is being filed before the mailing date of a first office action on the merits, therefore it is believed that no fee is due. This application was filed after June 30, 2003. Therefore, pursuant to the waiver of the requirements under 37 C.F.R. § 1.98(a)(2)(f), copies of each U.S. Patent and each U.S. Patent Application Publication are not required to be submitted. Copies of any foreign patent documents and non-patent literature cited herein are enclosed.

Respectfully Submitted,

Frances R. Putkey, Ph.D.
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1896 Rutherford Rd. Carlsbad, CA 92008 Phone: 760-603-2710 Fax: 760-603-3820 Dated: April 11, 2007

PTO/SB/08A (07-08)

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Amy Hudson Bowman ISPH-0595USA

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U.S. PATENT DOCUMENTS							
Everriner	Ote	Document Number	Publication Date	Name of Palentine or Applicant of Cited Document	Pages, Columns, Lines, Where Relayan		
Initia's "	No.1	Number - Kind Code [®] (# Account)	MM-00-YYYY	Calca Document	Passages or Relevant Figures Appear		
	AA	US-5,721,138	02-24-1998	Lawn			
	AB	US-5,866,551	02-02-1999	Benoit et al.			
	AC	US-5,801,154	09-01-1998	Baracchini et al.			
	AD	US-6,008,344	12-28-1999	Bennett et al.			
	AE	US-6,080,580	06-27-2000	Baker et al.			
	AF	US-6,512,161	01-28-2003	Rouy et al.			
	AG	US-6,573,050	06-03-2003	Ben-David et al.			
	AH	US-6,613,567	09-02-2003	Bennett et al.			
	Al	US-6,809,193	10-26-2004	McKay et al.			
	AJ	US-2003/0119766	06-26-2003	Crooke et al.			
	AK	US-2004/0242516	12-02-2004	Crooke et al.			
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	FOREIGN PATENT DOCUMENTS									
Francisco	Cite	Foreign Patent Document	Publication	Name of Polenten or	Pages, Columns, Lines, Where Relevant					
Initals*	No.1	Country Code ³ - Number ⁶ - Kind Code ⁵ (F known)	MM-DD-YYYY	Applicant of Ciled Document	Passages or Relevant Figures Appear	τe				
	AL	WQ 96/09392 A1	03-28-1996	Ribozytne Pharm.						
	AM	WO 99/34016 A2	07-08-1999	Genena Ltd.						
_	AN	WO 99/35241 AI	07-15-1999	Rhone-Poulenc						
	AO	WO 03/014307 A2	02-20-2003	Isis Pharma.						
	AP	WO 2005/000201 A2	01-06-2005	Isis Pharma.						

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		NON PATENT LITERATURE DOCUMENTS		
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the florn (book, magazine, journal, serial, symposium, catalog, etc.), detc, page(s), volume-issue number(s), publisher, only anotice country where publisher.	T²	
	AQ	AGRAWAL, S., "Antisense oligonucleotides: towards clinical triels," <i>TIBTECH</i> (1996) 14:376-387.		
	AR	ANDERSON, L. et el., "A comparison of selected mRNA and protein ebundances in human liver," Electrophoresis (1997) 18:533-537.		
	AS	BRAASCH, D. A. et al., "Novel Antisense and Poptide Nucleic Acid Strategies for Controlling Gene Expression," Biochem. (2002) 41(14):4503-4510.		
	AT	BRANCH, A. D., "A good antisense molecule is hard to find," TIBS (1998) 23:45-50.		
	AU	CALLOW, M. J. et al., "Expression of human apolipoprotein B and assembly of lipoprotein (a) in transgenic mice," Proc. Natl. Acad. Sci. USA (1994) 91:2130-2134.		
	AV	CHIESA, G. et el., "Reconstitution of Lipoprotein (a) by Infusion of Human Low Density Lipoprotein into Transgenie Mice Expressing Human Apolipoprotein (a)," J. Biol. Chem. (1992) 267(34):2369-24374.		
	AW	CHIN, A., "On Preparation and Utilization of Isoleted and Purified Oligonucleotides," Katherine R. Everett Lew Library of the University of North Carolina, March 14, 2002.		
	DEVERRE, JR. et al., "A competitive cazyme hybridization assay for plasma determination of phosphoticster and phosphorothiouste antisense oligonucleotides," <i>Nucleic Acids Res.</i> (1997) 25(18):354-359.			
	AY	DIAS, N. et al., "Potential roles of antisense oligonucleotides in cancer therapy. The example of bel-2 antisense oligonucleotides." Eur. J. Pharm. Biopharm. (2002) 54:263-269.		
	AZ	FRANK, S. et al., "Advenovirus-mediated spo(s)-antisense-RNA expression efficiently inhibits apo(a) synthesis in vitro and in vivo," Gene Therapy (2001) 8:425-430.		
	BA	FRANK, S. et al., "The spolipoprotein(a) gene resides on human chromosome 6q26-27, in close proximity to the homologous gene for plasminogen," Hum. Genet. (1988) 79(4):352-356.		
	ВВ	FRITZ, H. et al., "Cationic Polystyrene Nanoparticles: Preparation and Characterization of a Model Drug Carrier System for Antisense Oligonacleorides," J. Colloid Interface Sci. (1997) 195:272-288		
	вс	GEWIRTZ, A. M. et al., "Facilitating oligonucleotide delivery: Helping antisense deliver on its promise," Proc. Natl. Acad. Sci. USA (1996) 93:3161-3163.		

Examiner Signature		Date Considered	
*EXAMINER: Into	al if reference considered, whether or not citation is in confo	rmance with MPEP	609. Draw line through citation if not in conformence

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		NON PATENT LITERATURE DOCUMENTS	
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	BD	GRAINGER, D. J. et al., "Activation of transforming growth factor-β is inhibited in transgenic apolipoprotein(a) micc," Nature (1994) 370:460-462.	
	BE	GREEN, D. W. et al., "Antisease Oligonucleotides: An Evolving Technology for the Modulation of Gene Expression in Human Disease," J. Am. Coll. Surg. (2000) 191:93-105.	
	BF	HAJJAR, K. A. et al., "The Role of Lipoprotein(a) in Atherogenesis and Thrombosis," Annu. Rev. Med. (1996) 47:423-442.	
	BG	JEN, KY. et al., "Suppression of Gene Expression by Targeted Disruption of Messenger RNA: Available Options and Current Strategies," Stem Cells (2000) 18:307-319.	
	ВН	KATAN, M. B. et al., "Characteristics of Human Hypo- and Hyperresponders to Dietary Cholesterol," Am. J. Epidemiology (1987) 125(3):387-399.	
	ВІ	KOSTNER, K. M. ct al., "Lipoprotein(a): still an enigma?" Current Opinion in Lipidology (2002) 13:391-396.	
	ВЈ	LAWN, R. M. et al., "Atherogenesis in transgenic mice expressing human apolipoprotein(a)," Nature (1992) 360:670-672.	
	BK	MCLEAN, J. W. et al., "cDNA sequence of human apolipoprotein(a) is homologous to plasminogen," Nature (1987) 330:132-137.	
	BL	MILLIGAN, J. F. et al., "Current Concepts in Antisense Drug Design," J. Med. Chem. (1993) 36(14):1923-1927.	
	BM	MORISHITA, R. et al., "Novel Therapeutic Strategy for Atherosclerosis – Ribozyme Oligonuclootides Against Apolipoprotein(s) Selectively Inhibit Apolipoprotein(s) But Not Plasminogen Gene Expression," Circulation (1968) 98: 1898-1904.	
	BN	NOWAK-GÖTTL, U. et al., "Lipoprotein (a): Its Role in Childhood Thromboembolism," Pediatrics (1997) 99(6):1-3.	
	во	OHMICHI, T. et al., "The virtues of self-binding: high sequence specificity for RNA cleavage by self-processed hammerhead ribozymes," Nucleic Acids Res. (2000) 28(3):776-783.	
	BP	OPALINSKA, J. B. et al., "Nucleic-Acid Therapeuties: Basic Principles and Recent Applications," Nature Reviews Drug Discovery (2002) 1:503-514.	

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		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials *	Cite No.	Include name of the author (in CAPITAL LETTERS), little of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, othy and/or country where publisher	T 2
	вQ	PROSNYAK, M. 1. et al., "Substitution of 2-Aminoadenine and 5-Methyloytosine for Adenine and Cytosine in Hybridization Probes Increases the Sensitivity of DNA Fingerprinting," Genomics (1994) 21:490-494.	
	BR	RAINWATER, D. L. et al., "Lipoprotein Lp(a): Effects of Allelic Variation at the LPA Locus," J. Exp. Zoology (1998) 282:54-61.	
	BS	SANDKAMP, M. et al., "Lipoprotein(a) is an Independent Risk Factor for Myocardial Infarction at a Young Age," Clin. Chem. (1990) 36(1):20-23.	
	BT	SEED, M. et al., "Relation of Serum Lipoprotein(a) Concentration and Apolipoprotein(a) Phenotype to Coronary Heart Disease in Petients with Pamilial Hypercholesterolemin," New Engl. J. Med. (1990) 322-1494-1499.	
	BU	SKERRA, A., "Phosphorothicate primers improve the amplification of DNA sequences by DNA polymerase with proofreading activity," Nucleic Acids Res. (1992) 20(14):3551-3554.	
	вv	TAMM, I. et al., "Antisense therapy in oncology: new hope for an old idea?" The Lancet (2001) 358:489-497.	
	вw	VESSBY, B. et al., "Diverging Effects of Cholestyramine on Apolipoprotein B and Lipoprotein Lp(a)," Atherosclerosis (1982) 44:61-71.	
	вх	WEINTRAUB, H. M., "Antisense RNA and DNA," Scientific American (1990) 40-46.	
	вч	YANG, Y. et al., "Transforming Growth Factor-β1 Inhibits Human Kerutinocyte Proliferation by Upregulation of a rEceptor-Type Tyrosine Phosphatase R-PTP-α Gene Expression," Biochem. Biophys. Rev. Commun. (1996) 228:307-812.	

Examiner Signature	Date Considered	

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